

### ABSTRACT

A method and apparatus for estimating a signal-to-interference ratio (SIR) of baseband signals which are received and processed by a data demodulator to provide demodulated signals to a SIR estimator. The SIR estimator receives the demodulated symbols from the data demodulator and estimates the average signal power of the demodulated symbols as a function of a median based average power value  $m_d$  and a mean based average power value  $m_e$  of the demodulated symbols for each quadrant of a quadrature phase shift keying (QPSK) constellation. The function is used to determine a minimum value  $m$  between  $m_d$  and  $m_e$ . The SIR estimator estimates the average effective interference power of the demodulated symbols and calculates the SIR by dividing the estimated average signal power of the demodulated symbols by the estimated average effective interference power of the demodulated symbols. The SIR estimator reduces bias effects on SIR estimation.